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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/816,000 | 04/02/2004 | James Vogeley | 4209-26 | 7279 |
| 23117 | 7590 | 04/25/2006 | EXAMINER | |
| NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203 | | | RODRIGUEZ, WILLIAM H | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3746 | |
| DATE MAILED: 04/25/2006 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/816,000

Applicant(s)

VOGELEY ET AL.

Examiner

William H. Rodriguez

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-78 is/are pending in the application.
- 4a) Of the above claim(s) 11-22 and 40-73 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 7, 23 and 35 is/are rejected.
- 7) ☒ Claim(s) 2-6, 8-10, 24-34, 36-39 and 74-78 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>2/28/06:7/6/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action is in response to the amendment and remarks filed 2/21/06.

Election/Restrictions

1. Applicant's election with traverse of the species of claims 1-10, 23-39 and new claims 74-78 in the reply filed on 2/21/06 is acknowledged. The traversal is on the ground(s) that "a regular invention restriction would have been more appropriate". The application contains claims directed to a pump, a drive circuit and a piezoelectrically-operated apparatus. Both the drive circuit and the piezoelectrically-operated apparatus as claimed can be used for any type of device, not necessarily a pump. Therefore, the application contains inventions that are patentably distinct from each other. Therefore, the requirement is still deemed proper and is therefore made FINAL.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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3. Claim 1 provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of **copending Application No. 10/815,978**. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following reasons.

Claim 1 of the instant application is merely broader than claim 1 of the copending application '978. Claim 1 of the instant application recites the following elements: a pump body, a pumping chamber, a piezoelectric actuator, a drive signal, and a drive circuit. While, claim 1 of the copending application '978 recites the following elements: a pump body, a pumping chamber, a piezoelectric actuator, a drive signal, a drive circuit, and a memory. Thus, the elements recited by claim 1 of the instant application are contained within claim 1 of the copending application'978. On the other hand, claim 1 of the copending application'978 is more specific because it has a memory. Nevertheless, the more specific claim 1 of the copending application'978 "anticipates" the broader claim 1 of the instant application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

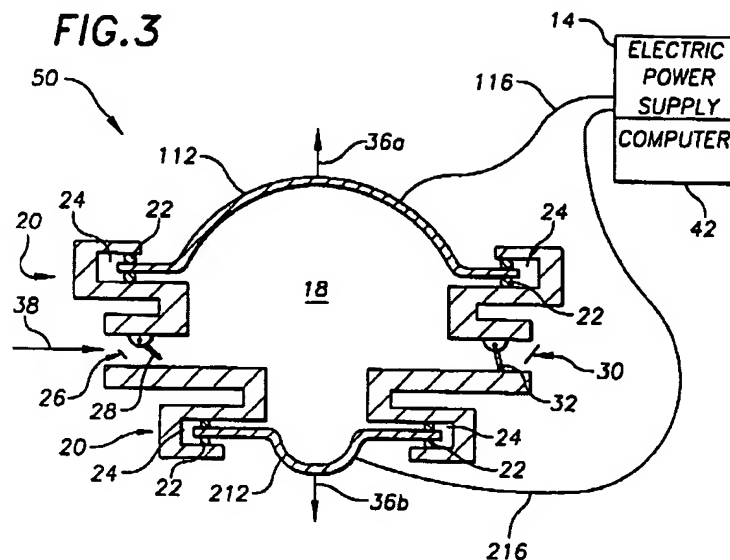
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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5. Claims 1, 7 and 35 are rejected under 35 U.S.C. 102(b) as being anticipated by **Bishop et al.** (US 6,071,088).

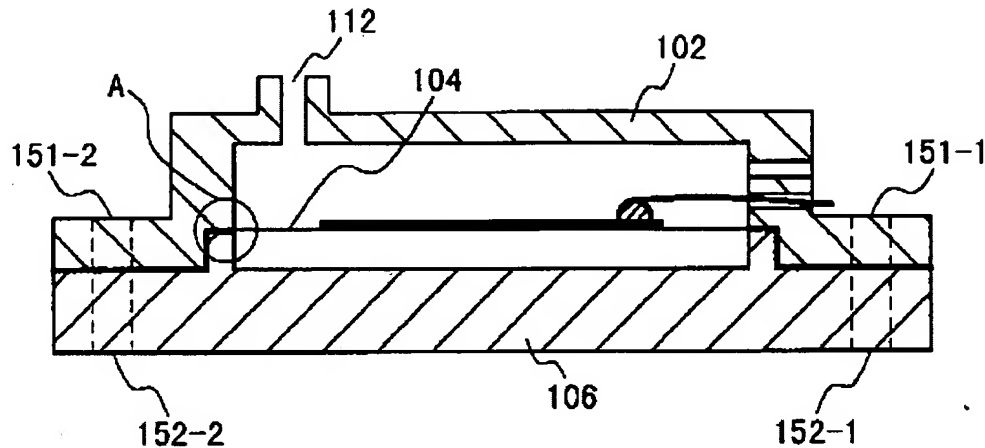


With respect to claims 1 and 35, **Bishop** teaches a pump 50 comprising: a pump body for at least partially defining a pumping chamber 18; a piezoelectric actuator 112, 212 situated in the pump body and responsive to a drive signal for pumping fluid; a drive circuit 42 which produces the drive signal and a power supply 14. **Bishop** teaches that the computer 42 serves as the drive circuit. See particularly cl. 6 ll. 36-46; cl. 8 ll. 26-30 and Figure 3.

With respect to claim 7, since **Bishop** has the same structure as claimed, it is inherent that **Bishop's** device would be able to perform the recited method steps. See particularly cl. 6 ll. 36-46; cl. 8 ll. 26-30 and Figure 3.

6. Claims 1, 7 and 35 are rejected under 35 U.S.C. 102(b) as being anticipated by Kameyama et al. (US 6,104,127).

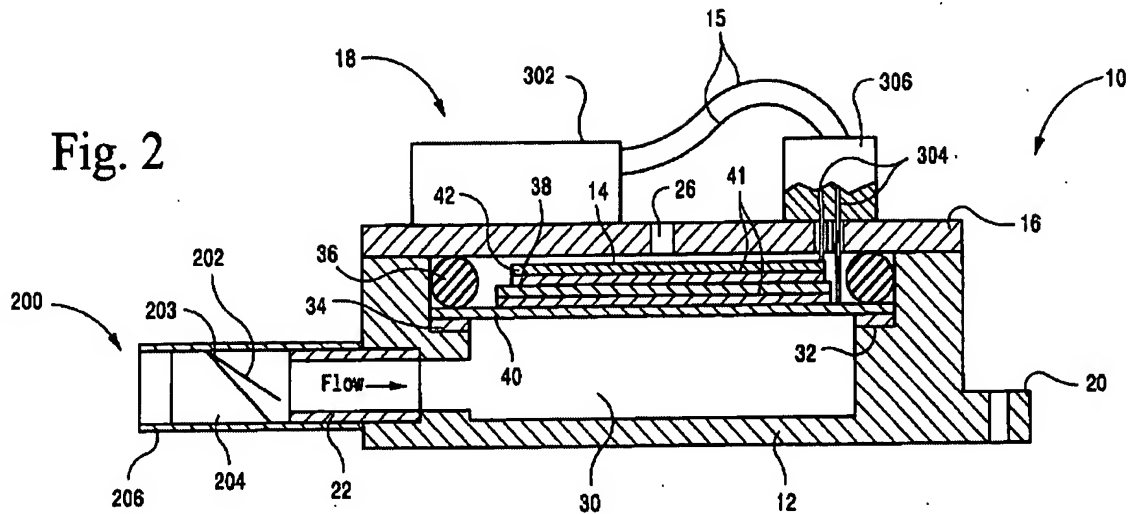
Fig. 1 PRIOR ART



With respect to claims 1 and 35, **Kameyama** teaches a pump (cl. 1 ll.34-35) comprising: a pump body for at least partially defining a pumping chamber; a piezoelectric actuator 104 situated in the pump body and responsive to a drive signal for pumping fluid; a drive circuit (cl. 1 ll. 67) which produces the drive signal, and a power supply (not shown but inherent in order to provide power to the drive circuit). See particularly Figure 1.

With respect to claim 7, since **Kameyama** has the same structure as claimed, it is inherent that **Kameyama's** device would be able to perform the recited method steps. See particularly cl. 1 ll.34-35, cl. 1 ll. 67 and Figure 1.

7. Claims 1, 7 and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by **East (US 2004/0000843)**.



With respect to claims 1 and 35, **East** teaches a pump 10 comprising: a pump body for at least partially defining a pumping chamber; a piezoelectric actuator 14 situated in the pump body and responsive to a drive signal for pumping fluid; a drive circuit 18 which produces the drive signal, and a power supply (not shown but inherent in order to provide power to the drive circuit). See particularly Figures 2, 7a.

With respect to claim 7, since **East** has the same structure as claimed, it is inherent that **East's** device would be able to perform the recited method steps. See particularly cl. 1 ll.34-35, cl. 1 ll. 67 and Figure 1.

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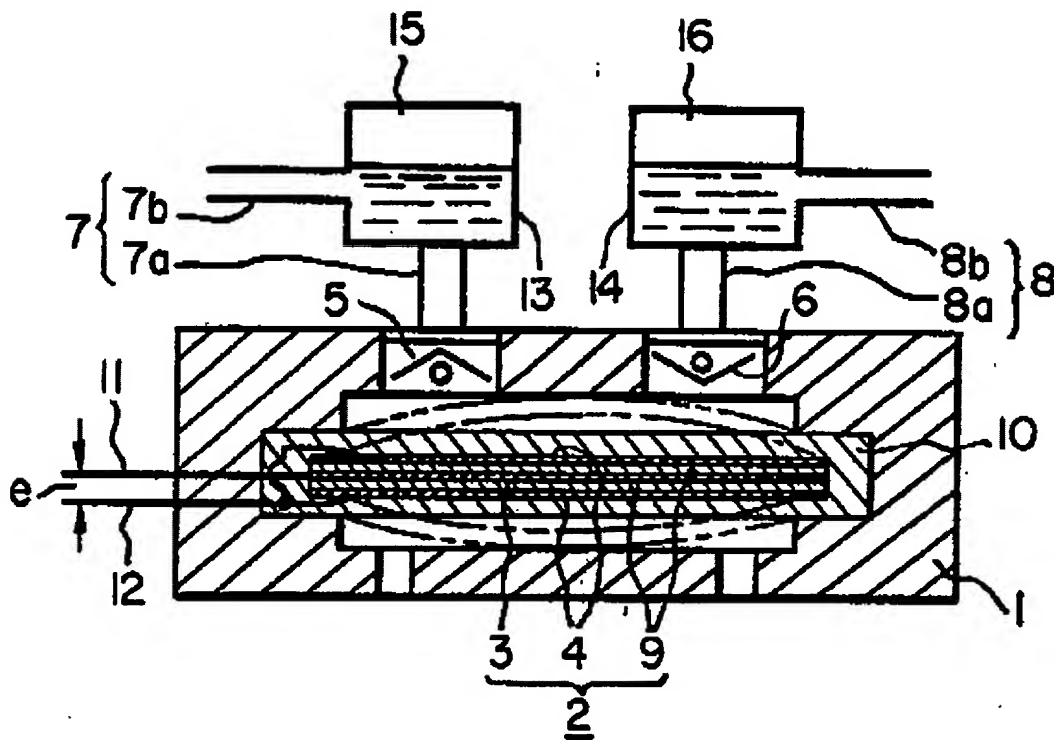
8. Claims 1, 7 and 35 are rejected under 35 U.S.C. 102(b) as being anticipated by **Okuyama et al. (JP 02-248671, provided by applicant)**.

With respect to claims 1 and 35, **Okuyama** teaches a pump 1 comprising: a pump body for at least partially defining a pumping chamber; a piezoelectric actuator 2 situated in the pump body and responsive to a drive signal for pumping fluid; a drive circuit 3 which produces the drive signal, and a power supply (not shown but inherent in order to provide power to the drive circuit). See abstract and Figure provided by applicant.

With respect to claim 7, since **Okuyama** has the same structure as claimed, it is inherent that **Okuyama's** device would be able to perform the recited method steps. See abstract and Figure provided by applicant.

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9. Claim 23 is rejected under 35 U.S.C. 102(b) as being anticipated by **Okuyama et al.** (US 4,939,405).

FIG. 1

Okuyama teaches a pump comprising: a pump body 1 for at least partially defining a pumping chamber; a piezoelectric actuator 2 situated in the pump body and responsive to a drive signal for pumping fluid; a drive circuit (3, 4, 9, 11, 12) which produces the drive signal, wherein the piezoelectric actuator 2 forms part of the drive circuit. See particularly cl 1 ll. 22-32 and Figure 1.

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Allowable Subject Matter


10. Claims 2-6, 8-10, 24-34, 36-39 and 74-78 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Rodriguez whose telephone number is 571-272-4831. The examiner can normally be reached on Monday-Friday 7:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy S. Thorpe can be reached on 571-272-4444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


William H. Rodriguez
Primary Examiner
Art Unit 3746

4/11/06